

The chapter on Hop Substitutes will prove of interest to American chemists and brewers at the present time, when so many of the State Legislatures, and even the National Congress are considering the subject of legislation looking to the definition of beer, and a description of its adulterants. We have in this country, as in England, no legal definition of beer, and in the absence of such a definition, the brewer using quassia wood instead of hops, could not legally be accused of practicing adulteration. In point of fact it is doubtless true that hop substitutes are used to a very limited extent in this country. Nevertheless, our chemists will be grateful to Mr. Allen for presenting in a succinct form the best methods of detecting the various bitter principles which have been proposed and used for hop substitutes. I am glad to see that he gives no credence to the absurd statement we all have heard, relating to the presence of strychnin in beer.

The article on urea is very full and complete, but inasmuch as the author has published a special treatise on urine analysis, and for the additional reason mentioned above, that urea has no great commercial importance, space would have been saved by its omission.

We shall welcome Mr. Allen's concluding volume, and the work when complete will find a place with that of Fresenius in the equipment of the analytical chemist. H. W. WILEY.

A BRIEF INTRODUCTION TO QUALITATIVE ANALYSIS. BY LUDWIG MEDICUS, Professor of Chemistry in the University of Würzburg. Translated from the Fourth and Fifth German editions, with additions by John Marshall, Assistant Professor of Chemistry in the Department of Medicine of the University of Pennsylvania. Fourth Edition. 203 pp. 8vo. Philadelphia: The J. B. Lippincott Co. Price \$1.50.

The writer of a book upon qualitative analysis at the present time finds it difficult to avoid following beaten paths. In fact, the methods given in the earlier text-books for the qualitative testing and separation of bodies have survived so many attempts to improve upon them, and the difficulties in the way of material innovations have usually proved to be so great, that it is hardly to be expected of an author that he should originate wholly new methods of qualitative work. Superior arrangement of topics, greater clearness and accuracy of details, and the presentation of known facts in such manner as to call for more vig-

orous exercise of the student's thinking powers constitute commonly the points of advantage claimed for any new book designed to replace older ones in elementary chemical analysis.

As regards accuracy, clearness, and mode of presentation, the English version of Medicus' book fulfils its purpose in a very satisfactory manner. The descriptions of processes are explicit and yet concise, and wherever possible are supplemented by tabulated statements. Useful data are given as to solubilities of precipitates. The rarer elements are separately treated in an appendix, and, for the further illustration of their reactions, analyses of their more important ores are described.

As regards arrangement, many teachers will find no objection to the book. The author's system of classification of bases is the same as that adopted in various other text-books, but this classification, according to which the metals precipitated by hydrochloric acid are treated first in order, as group one, and the alkali metals with magnesium are considered last, as constituting group six, has some disadvantages. The student on entering upon a laboratory course has much to learn regarding the nature of salts, and he gains a clearer idea of these if he experiments upon the compounds of the alkaline and alkaline earth metals before taking up the study of mercury, antimony, and tin. The greater simplicity in the reactions of the light metals is an additional reason why they should precede the heavy metals. The work of the translator has been well performed.

On account of its attractive form and its simple and clear directions and explanations, this book will prove a valuable aid to students of analytical chemistry. FRANCIS C. PHILLIPS.

LECTURE NOTES ON THEORETICAL CHEMISTRY. BY FERDINAND G. WIECHMANN, PH.D., Columbia College. Second edition. Revised and enlarged. xviii+288 pp. 1895. New York: John Wiley & Sons. Price, \$3.00.

The favorable reception accorded the first edition has led the author to issue a second edition of the "Lecture Notes on Theoretical Chemistry." The matter has been carefully revised and such additions made as serve to keep the student in touch with the most recent developments of chemistry, especially in the field of physical chemistry. The space given to stereochemistry